

REMARKS/ARGUMENT

1) Claims 1-8, 10-14, 16-20, 22-26 and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rainish (Rainish et al., US Patent No.: 6,606,490 B1) in view of Harrison (Harrison, Collin G.; US Patent No.: 5,181,200 A). Applicants respectfully traverse this rejection as follows:

Independent Claim 1, as amended, requires and positively recites a method of data communication between a base station and a mobile station over a wireless communication network, the method comprising the steps of: “transmitting data signals between a mobile station and a base station”, “monitoring the data signals received by the mobile station from the base station” and **“disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station”**.

Independent Claim 10, as amended, requires and positively recites, a method of data communication between a base station and a mobile station over a wireless communication network, the method comprising the steps of: “transmitting data signals between a mobile station to a base station”, **“monitoring the signal to noise ratio (SNR) of data signals received by the mobile station** from the base station to provide a determination whether the mobile station is **in a shadow of the base station”** and “disabling transmission of data signals from **and maintaining reception of data signals by the mobile station when the mobile station is in a shadow of the base station”**.

Independent Claim 16, as amended, requires and positively recites, a method of data communication between a base station and a mobile station over a wireless communication network, the method comprising the steps of: “transmitting data signals between a mobile station

and a base station”, “transmitting a signal from the base station to the mobile station that indicates a loss of at least one primary base station rake finger to provide a determination that the mobile station is in a shadow of the base station” and **“disabling transmission of data signals by the mobile station while maintaining the ability of the mobile station to receive data signals when the mobile station is in a shadow of the base station”**.

Independent Claim 22, as amended, requires and positively recites, a method of data communication between a base station and a mobile station over a wireless communication network, the method comprising the steps of: “transmitting data signals between a mobile station and a base station”, “monitoring the data signals received by the mobile station from the base station”, “detecting an abrupt change in signal delay received by the mobile station from the base station to provide an indication of whether the mobile station is in a shadow of the base station” and **“disabling transmission of the data signals by the mobile station, while maintaining the ability of the mobile station to receive data signals transmitted by the base station, when the mobile station is in a shadow of the base station”**.

Independent Claim 28, new, requires and positively recites, a method of power management in a wireless transceiver comprising the steps of: “monitoring data signal quality received by the transceiver”, **“disabling the ability of the transceiver to transmit data signals, while maintaining the ability of the transceiver to receive data signals when the received signal quality falls below a pre-determined threshold”**.

In contrast, the Rainish reference discloses a battery-powered portable radio receiver and method of operating the battery-powered radio receiver (Abstract, lines 1-2) in which, in contrast to the present invention, **the receiver goes to sleep** during predetermined time periods. In a Standby Mode, a receive path of the radio receiver is activated during a data-detection time interval for the detection of data destined for selected receivers, and a preconditioning time interval for performing

pre-conditioning functions with respect to the receiver before the data-detection time interval (Abstract lines 4-9). In the background of the invention, Rainish states:

In these terminals the Standby mode consists of a **relatively long “sleep” interval in which most of the terminal blocks of the mobile station are deactivated**, and a **relatively short “reception” interval in which the terminal is enabled to receive from the base station transmitted data**, usually a paging or a broadcast message, which may be intended for the terminal. The mobile station checks whether this message is intended for itself, and according to its contents, decides an further actions, like going to the sleep phase ... (col. 1, lines 18-28).

Indeed, Rainish goes on to state in its “description of preferred embodiments of the present invention”, that “the present invention overcomes the disadvantages of the prior art, by providing a novel method which reduces the wake up time of the radio section as well as the baseband section” (col. 2, lines 64-67). As such, **Rainish actually turns off its receiver**, whereas **the present invention turns off the transmitter** portion of the transceiver in the mobile station, but **keeps the receiver portion on**. Rainish gives a further definition of the sleep mode: “the receiver goes into a sleep mode until the slot beginning (block 580). In this sleep mode, **all parts of the receiver** (RF parts and base band parts) **can be turned off** except those parts which are needed for waking up the receiver at the slot start (such as a low power counter). Page 3 of examiner’s analysis is particularly off the mark. Applicants respectfully submit that the Examiner is reading functionality into Rainish’s specification that does not exist. Examiner writes: “an abrupt change in signal delay is an inherent indicator of shadowing”, but there is nothing in the Rainish reference that would lead one to that conclusion. Column 1, lines 28-35 describes a pre-conditioning or synchronization period in which the standby mode receiver sets its parameters close to those used in the previous active mode. In addition, Examiner’s writing: “a loss of at least one primary base station rake finger is an indication of loss of signal or shadowing” cannot be discerned from the textbook explanation of a RAKE receiver in column 2, lines 21-29 and the startup time calculation in column 2, lines 42-52.

As such, Rainish fails to teach or suggest, **“disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station”**, as required by Claim 1, OR **“disabling transmission of data signals from and maintaining reception of data signals by the mobile station when the mobile station is in a shadow of the base station”**, as required by Claim 10, OR **“disabling transmission of data signals by the mobile station while maintaining the ability of the mobile station to receive data signals when the mobile station is in a shadow of the base station”**, as required by Claim 16, OR **“disabling transmission of the data signals by the mobile station, while maintaining the ability of the mobile station to receive data signals transmitted by the base station, when the mobile station is in a shadow of the base station”**, as required by Claim 22 OR **disabling the ability of the transceiver to transmit data signals, while maintaining the ability of the transceiver to receive data signals when the received signal quality falls below a pre-determined threshold as required by Claim 28.**

The Examiner relies upon Harrison to supplement the deficiencies of Rainish. Applicants respectfully submit that the Examiner seems to be misapplying the teaching of Harrison to the present invention. The Examiner states that Harrison teaches “disabling transmission of signals by the mobile station, while maintaining the ability of the mobile station to receive data signals when the mobile station is in a shadow of the base station” making reference to column 7, lines 5-10. Harrison is teaching communication “over an optical radiation communications channel” (column 3, lines 58-59) utilizing “IR (infrared) modulators and receivers” (column 4, line 51) not over a radio frequency wireless channel, as described in the present invention (ref. cellular handset, page 2, line 3). Harrison points out that “it may be desirable to reduce transmitted power within a certain radius of the base station 12 in order to prevent overdriving the CR (control receiver) 30b”. The CR is defined in column 4, lines 49-51 as an IR receiver. A re-write of Harrison’s text in the examiner’s reference (column 7, line 5-10) explains the two links between cause and effect: Control of optical power to accommodate a close approach to the base station 12 by the mobile unit

10 (as noted above) OR control of data transmission rates to permit lowered transmission rates when the signal path is shadowed makes scientific sense. In the second relationship, lowering data rate in low signal-to-noise environments improves the bit-error-rate. In contrast, the suggestion to lower the transmission power in a shadowed condition degrades bit-error-rate. In the present invention, transmission is ceased in a shadowed condition to conserve handset battery power - NOT to affect bit-error-rate. Additionally, the present invention has nothing to do with optical communications. Even assuming, arguendo, Harrison discloses a method and system for disabling transmission of signals by the mobile station when in a shadow of a base station, Harrison does not teach or suggest the above-identified deficiencies of the Rainish reference. As such, any combination of Rainish and Harrison fails to teach or suggest the limitations of these claims and the 35 U.S.C. 103(a) rejection is overcome.

In proceedings before the Patent and Trademark Office, "the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art". In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (citing In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). "The Examiner can satisfy this burden **only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references**", In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(citing In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)(citing In re Lulu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)).

Although couched in terms of combining teachings found in the prior art, the same inquiry must be carried out in the context of a purported obvious "modification" of the prior art. **The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.** In re Gordon, 733 F.2d at 902, 221 USPQ at 1127. Moreover, **it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the**

teachings of the prior art so that the claimed invention is rendered obvious. In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed.Cir.1991). See also Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed.Cir.1985).

Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). It is clear from the above analysis that the Examiner did not consider all the words of Claims 1, 10, 16 and 22, as is required by law.

When all of the words of Claims 1, 10, 16, 22 and 28 are considered as a whole, even were it proper to combine the Rainish and Harrison references, which it is not, all of the claimed elements are not disclosed in the combined teaching.

Claims 2-8, 11-14, 17-20 and 23-26 stand allowable as depending from allowable claims and including further limitations not taught or suggested by the references of record.

2) Claims 9, 15, 21, 27, 29 and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rainish (Rainish et al., US Patent No.: 6,606,490 B1) in view of Harrison (Harrison, Collin G.; US Patent No.: 5,181,200 A) as applied to claims 7, 13, 19 and 25 above, and further in view of Bergins (Bergins et al., Patent No. 6,564,071 B1). Applicants respectfully traverse this rejection as follows:

Claims 9, 15, 21, 27, 29 and 30 depend directly or indirectly from Claims 1, 10, 16, 22 and 28 respectively. Claims 9, 15, 21, 27, 29 and 30 further define the methods of Claims 7, 13, 19, 25 and 28, respectively. Claims 9, 15, 21, 27, 29 and 30 are allowable for the same reasons given in support of the allowance of Claims 1, 10, 16, 22, and 28. The Bergins reference fails to teach or suggest the previously discussed deficiencies of the Rainish and Harrison references.

3) Claim 31 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rainish in view of Harrison, and further in view of Bartie (Bartie et al.; US Patent No.: 6,018,655 A). Applicants respectfully traverse this rejection as follows:

Claim 31 further defines the method of Claim 1 wherein the “wireless communications transceiver is a cellular handset transceiver”.

In contrast, the Rainish reference discloses a battery-powered portable radio receiver and method of operating the battery-powered radio receiver (Abstract, lines 1-2) in which, in contrast to the present invention, the receiver goes to sleep during predetermined time periods. In a Standby Mode, a receive path of the radio receiver is activated during a data-detection time interval for the detection of data destined for selected receivers, and a preconditioning time interval for performing pre-conditioning functions with respect to the receiver before the data-detection time interval (Abstract lines 4-9). Even the background of the invention, Rainish states:

In these terminals the Standby mode consists of a **relatively long “sleep” interval in which most of the terminal blocks of the mobile station are deactivated**, and a **relatively short “reception” interval in which the terminal is enabled to receive from the base station transmitted data**, usually a paging or a broadcast message, which may be intended for the terminal. The mobile station checks whether this message is intended for itself, and according to its contents, decides on further actions, like going to the sleep phase ... (col. 1, lines 18-28).

Indeed, Rainish goes on to state in its “description of preferred embodiments of the present invention”, that “the present invention overcomes the disadvantages of the prior art, by providing a novel method which reduces the wake up time of the radio section as well as the baseband section” (col. 2, lines 64-67). As such, **Rainish actually turns off its receiver**, whereas the present invention turns off the transmitter portion of the transceiver in the mobile station, but keeps the receiver portion on. Rainish gives a further definition of the sleep mode: “the receiver goes into a sleep mode until the slot beginning (block 580). In this sleep mode, **all parts of the receiver** (RF parts and baseband parts) **can be turned off** except those parts which are needed for waking up the

receiver at the slot start (such as a low power counter). Page 3 of examiner's analysis is particularly off the mark. Applicants respectfully submit that the Examiner is reading functionality into Rainish's specification that does not exist. Examiner writes: "an abrupt change in signal delay is an inherent indicator of shadowing", but there is nothing in the Rainish reference that would lead one to that conclusion. Column 1, lines 28-35 describes a pre-conditioning or synchronization period in which the standby mode receiver sets its parameters close to those used in the previous active mode. In addition, Examiner's writing: "a loss of at least one primary base station rake finger is an indication of loss of signal or shadowing" cannot be discerned from the textbook explanation of a RAKE receiver in column 2, lines 21-29 and the startup time calculation in column 2, lines 42-52.

As such, Rainish fails to teach or suggest, **"disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station"**, as required by Claim 31.

The Examiner relies upon Harrison to supplement the deficiencies of Rainish. Applicants respectfully submit that the Examiner seems to be misapplying the teaching of Harrison to the present invention. The Examiner states that Harrison teaches "disabling transmission of signals by the mobile station, while maintaining the ability of the mobile station to receive data signals when the mobile station is in a shadow of the base station" making reference to column 7, lines 5-10. Harrison is teaching communication "over an optical radiation communications channel" (column 3, lines 58-59) utilizing "IR (infrared) modulators and receivers" (column 4, line 51) not over a radio frequency wireless channel, as described in the present invention (ref. cellular handset, page 2, line 3). Harrison points out that "it may be desirable to reduce transmitted power within a certain radius of the base station in order to prevent overdriving the CR (control receiver) 30b". The CR is defined in column 4, lines 49-51 as an IR receiver.

A re-write of Harrison's text in the examiner's reference (column 7, line 5-10) explains the two links between cause and effect: Control of optical power to accommodate a close approach to

the base station 12 by the mobile unit 10 (as noted above) OR control of data transmission rates to permit lowered transmission rates when the signal path is shadowed makes scientific sense. In the second relationship, lowering data rate in low signal-to-noise environments improves the bit-error-rate. Lowering the transmission power in a shadowed condition to improve bit-error-rate makes no sense. In the present invention, we cease transmission in a shadowed condition to conserve power, not to improve bit-error-rate. But the present invention has nothing to do with optical communications.

Even assuming, *arguendo*, Harrison discloses a method and system for disabling transmission of signals by the mobile station when in a shadow of the base station, Harrison does not teach or suggest the above-identified deficiencies of the Rainish reference.

The Examiner also relies upon Bartie to supplement the deficiencies of Rainish and Harrison. The Examiner looks to Bartie's teaching of "an imminent change warning in a cellular system". In contrast, the present invention is devoid of "an imminent change warning" to the user and discloses a technique for saving handset power when the handset is temporarily in a poor reception environment.

Even assuming, *arguendo*, Bartie discloses a method and system for disabling transmission of signals by the mobile station when in a shadow of the base station, Bartie does not teach or suggest the above-identified deficiencies of the Rainish or Harrison references. As such, any combination of Rainish, Harrison and Bartie fails to teach or suggest the limitations of these claims and the 35 U.S.C. 103(a) rejection is overcome.

In proceedings before the Patent and Trademark Office, "the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art". *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (citing *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984)). "The Examiner can satisfy this burden **only by showing some**

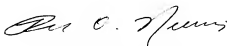
objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references”, In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(citing In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)(citing In re Lahu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)).

Although couched in terms of combining teachings found in the prior art, the same inquiry must be carried out in the context of a purported obvious "modification" of the prior art. **The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Gordon, 733 F.2d at 902, 221 USPQ at 1127. Moreover, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed.Cir.1991). See also Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed.Cir.1985).**

Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). It is clear from the above analysis that the Examiner did not consider all the words of Claim 31 as is required by law.

Accordingly, Claims 1-31 stand allowable. Applicants respectfully request allowance of the application as the earliest possible date.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Ronald O. Neerings", is written over a horizontal line.

/ Ronald O. Neerings /
Reg. No. 34,227
Attorney for Applicants

Texas Instruments Incorporated
P. O. Box 655474, M/S 3999
Dallas, Texas 75265
Phone: 972/917-5299
Fax: 972/917-4418